

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054265 A3

(51) International Patent Classification⁷: **C12P 19/62**,
19/60, C12N 15/52, C07H 17/08

(21) International Application Number:
PCT/GB2004/005001

(22) International Filing Date:
29 November 2004 (29.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0327721.7 28 November 2003 (28.11.2003) GB

(71) Applicants (for all designated States except US): **BIOT-ICA TECHNOLOGY LIMITED** [GB/GB]; Chesterford Research Park, Little Chesterford, Nr Saffron Walden Essex CB10 1XL (GB). **PFIZER INC.** [US/US]; 235 East 42nd Street, New York, NY10017 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GAISSER, Sabine** [GB/GB]; Biotica Technology Limited, Chesterford Research Park, Little Chesterford, Nr Saffron Walden Essex CB10 1XL (GB).

(74) Agents: **STUART, Ian** et al.; Mewburn Ellis LLP, York House, 23 Kingsway, London, Greater London WC2B 6HP (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
25 August 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POLYKETIDES AND THEIR SYNTHESIS

(57) Abstract: Macrolides particularly erythromycins and azithromycins, having O-mycaminosyl or O-angolosaminyl groups, particularly at the 5-position, are produced using a gene cassette comprising a combination of genes which, in an appropriate strain background, are able to direct the synthesis of mycaminose or angolosamine and to direct its subsequent transfer to an aglycone or pseudoaglycone. Synthetic genes may comprise one or more of angMIII, angMI, angB, angAI, angAII, angorf14, angorf4, tylMIII, tylMI, tylB, tylAI, tylAII, eryCVI, spnO, eryBVI, eryK, tyl Ia and ery G. Glycosyltransfer genes may comprise one or more of eryCIII, tylMII, angMII, desVII, eryBV, spnP and midI



WO 2005/054265 A3